PERTUSSIS Case and Outbreak 'Quicksheet'

To be used as a checklist for determining pertussis cases and assisting in the completion of the Pertussis Report, form DHS 8258

Infectious agent: *Bordetella pertussis (a bacterium)*

Mode of transmission: a) Person to person via direct contact or large respiratory droplets or b) Airborne via aerosolized droplet nuclei (tiny droplets suspended in the air)

Incubation period: Commonly 7-10 days and rarely as short as 5 days or as long as 21 days (almost always <= 14 days)

Period of communicability:
- ☐ Without antibiotics – From start of prodromal symptoms (these start from 1-2 weeks before onset of cough spasms or paroxyms) to 3 weeks after onset of cough spasms.
- ☐ With appropriate antibiotics - Until day five of the antimicrobial course.

CDC CASE DEFINITION AND CLASSIFICATION *(for purposes of public health reporting)*

Clinical case definition for isolated case: A cough illness lasting ☐at least two weeks with one or more of the following: ☐paroxysms of coughing ☐inspiratory "whoop", and/or ☐post-tussive vomiting, all without other apparent cause.

Clinical case definition when epi-linked to another case(s), at least one of which is culture positive for pertussis: A cough illness lasting ☐ at least 2 weeks**,** without other apparent cause.

Case Classification:
- ☐**Confirmed** – ☐ cough illness and culture positive; or ☐ meets case definition for isolated case and PCR positive; or ☐ cough illness for at least 2 weeks and direct contact with culture or PCR positive case. **A positive serology test result does not make a case confirmed for reporting purposes.**
- ☐**Probable** - meets the ☐clinical case definition for isolated case and is neither laboratory confirmed nor epidemiologically linked to a laboratory confirmed case.
- **Both confirmed and probable cases are officially reported.**

CLINICAL FEATURES

Catarrhal (or Prodromal) stage:

Onset of cold-like symptoms (coryza, sneezing, mild fever, occasional cough)

Lasts approximately 1-2 weeks with cough gradually becoming more severe

Paroxysmal stage:

Characterized by patient having bursts (paroxysms) of numerous, rapid coughs, sometimes followed by high-pitched inspiratory "whoop," cyanosis, apnea, post-tussive vomiting/gagging, and/or sticky mucus production

Usually lasts 1-6 weeks, but may last up to 10 weeks

Variations of paroxysmal stage:
- ☐ **Infants (<6 months):** cough, choking, cyanosis, without "whoop" or paroxysms
- ☐ **Adults/teenagers/immunized children:** milder illness, hacking cough, usually with sticky mucus production and occasional paroxysms. Sometimes post-tussive vomiting and gagging without "whoop." Mimics bronchitis.

Convalescent Stage:

Gradual recovery, with cough becoming less frequent and less paroxysmal

Generally, cough disappears after 2-3 weeks, but some will have temporary recurrence of cough paroxysms with respiratory infections for next several months.

RECOMMENDED TREATMENT AND CHEMOPROPHYLAXIS

Drug	*Children*	*Adults*
☐ Erythromycin If person can not tolerate erythromycin or compliance is questionable:	☐ 40-59 mg/kg/day po divided into 4 doses /day for 14 days (max of 2 gms/day)	☐ 500 mg po q.i.d. for treatment; 250 mg/day q.i.d for 14 days for prophylaxis
☐ Trimethoprim/ Sulfamethoxazole **OR** ☐ Clarithromycin **OR** ☐ Oxytetracycline **OR** ☐ Azithromycin	☐ >=2 mos. old: 8 mg TMP/40 mg SMX per kg/day po divided into 2 doses/day for 14 days. ☐ >=6 mos. old: 15 mg/kg/day divided into 2 doses/day for 14 days ☐ >=9 years old: 25 mg/kg/day divided into 4 doses/day for 14 days ☐ >=6 mos. old: 10 mg/kg/day for 5 days	☐ 2 regular strength or 1 double strength tablet b.i.d. For 14 days ☐ 500 mg q.i.d. for 14 days ☐ 500 mg q.i.d. for 14 days ☐ 500 mg (in one dose) on 1st day, 250 mg once daily on 2nd-5th days

PERTUSSIS CASE INVESTIGATION

Both clinically confirmed *and* probable cases must be reported to DHS on ☐ *Pertussis Report* form, DHS 8258.

Investigation Process:

☐ Upon notification, contact the physician to confirm the diagnosis.

☐ A nasopharyngeal (NP) specimen should be obtained for culture as soon as possible, before antibiotic therapy begins. ***(See instructions for obtaining a nasopharyngeal swab-pertussis with color photos and diagram)***

☐ The case should be treated with antibiotics and excluded from school, child care, or other group setting until the first 5 days of the recommended antibiotic treatment have been completed. **(*See recommended treatment and chemoprophylaxis on front*)**

☐ Conduct interview to confirm onset, age, clinical signs, immunization status, setting.

☐ Assess exposure to others in household, school or elsewhere by determining all contracts at possible risk. Use the diagram below to help determine the potential case's period of infection, communicability, and illness.

☐ Complete a Pertussis Report *for each potential case, including probable cases or contacts with clinical pertussis.*

The following time line depicts the clinical course of pertussis and may be useful in the investigation process:

Exposure & Incubation **Incubation Period 5-21 days**			***Onset & Communicability*** **Catarrhal Stage 1-2 weeks**		***Paroxysms*** **Paroxysmal Stage 1-6 weeks**						***Convalescence*** **Convalescent Stage 2-3 weeks**			
weeks: -3	**-2**	**-1**	**0 + 1 (onset)**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Maximum incubation period 21 days (rarely over 14 days)		Average exposure & incubation period 7-10 days	**start communicability** cold symptoms: rhinorrhea, conjunctivitis, lacrimation, sneezing, low-grade fever, malaise, anorexia		paroxysmal cough, vomiting, cyanosis, (*and* apnea if less than 6 months old)						coughing			
					communicability ends after 5 days of appropriate antibiotocs			*communicability ends 3 weeks after onset of paroxysmal cough if no antibiotics are given*						

MANAGING HOUSEHOLD AND OTHER CLOSE CONTACTS

Close contact – examples: household, face-to-face, cough or sneeze in face, sharing eating utensils, kissing, conducting medical examination, or room contact for >= 1 hour (or any length of time if case coughing at time).

1. Identify close contacts and give prophylaxis (antibiotics) as appropriate.
   - ☐ Close contacts less than seven years of age who are unimmunized or have received fewer than 4 doses of pertussis vaccine should, in addition to antibiotic prophylaxis, have pertussis immunization initiated or continued according to the recommended schedule. Those who have had four doses of pertussis vaccine, should receive a booster dose of DTaP unless a dose has been given within the last three years or they have reached age 7 years.
   - ☐ Inadequately immunized close contacts less than 7 years of age should be excluded from schools, day-care centers and public gatherings for 14-days after the last exposure or until they have received the first 5 days of an appropriate antibiotic.
2. Exclude suspected (symptomatic) cases from school/day-care until they have completed the first 5 days of the antibiotic treatment.
3. Antibiotic prophylaxis usually not effective if started more than 2-3 weeks after exposure.

MANAGING CLOSE CONTACTS - DAY-CARE/SCHOOLS

☐ 1. Perform an immunization record review of children < 7 years old in the day-care/school classroom. Give DTaP to those due/overdue for dose.

☐ 2. Exposed children should be observed carefully for respiratory symptoms for 14 days after the last contact with the case.

☐ 3. Pertussis immunization and chemoprophylaxis should be given to close contacts (if >= 2 cases in classroom, give prophylaxis to all children and staff in the room).

☐ 4. Symptomatic children should be excluded, pending physician evaluation to determine cause of their symptoms. Children with pertussis, if their medical condition allows, may return or enter school after completing the first 5 days of the recommended antibiotic treatment.

☐ 5. Alert parents and local physicians to the situation.

COMMUNITY-WIDE OUTBREAK CONTROL

☐ 1. Consider changing first part of DTaP immunization schedule for infants to: giving 1st, 2nd, and 3rd doses at ages 1,2 and 3 mos.

☐ 2. Notify area clinics/ERs/doctors' offices of outbreak situation and distribute information to them on case reporting and contact management ***(see Appendices E and F of Pertussis Case Contact Management/Outbreak Control)***.

☐ 3. Physicians/clinics should call due and overdue infants and children in for immunization. Consider using news media/publicity to inform the public of this need.

☐ 4. Physicians/clinics/ERs promptly isolate patients with cough or see them at the end of the day. Ask all coughing patients who are old enough to put on face masks while in the medical facility until evaluated.

☐ 5. Health care staff facing repeated exposures should consider booster dose of .25 ml DTaP.